

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for performing electrophysiological measurements comprising the steps of:

- (i) providing a substrate for making the electrophysiological measurements upon which at least one cell can be arranged;
- (ii) providing a plurality of cells, each cell comprising a different heterologous DNA sequence derived from a DNA library, wherein each cell which expresses at least one the heterologous DNA sequence it comprises:
- (iii) arranging the ~~at least one cell~~ plurality of cells provided in step (ii) on the substrate to permit detection and/or measurement of a change (in comparison to a control cell) in the electrophysiology of ~~the cell, each cell,~~ said change being a result of expression of the heterologous DNA sequence, and
- (iv) identifying at least one cell of interest which shows at least one phenotypic change

characterised in that, the method comprises the further steps of:

isolating the cell of interest, and/or genetic material therefrom; and isolating mRNA from the cell of interest identified in step (iii).

2. (Previously Presented) A ~~The method as claimed in Claim 1~~ Claim 1, wherein the method further comprises the step of sequencing the genetic material.

3. (Previously Presented) A The method as claimed in ~~Claim 2~~ Claim 2, wherein the method further comprises the step of storing or recording the sequence information on an information carrier, such as a computer disk.

4-6. Canceled.

7. (Currently Amended) A The method as claimed in ~~claim 6~~ Claim 1, wherein the DNA library is a cDNA library.

8. (Currently Amended) A The method as claimed in ~~any one of the preceding claims~~ Claim 1, wherein the change in the electrophysiology of the cell is detected and/or measured by patch clamping.

9. (Currently Amended) A The method as claimed in ~~any preceding claim~~ Claim 1, wherein the cell is treated with a test agent before step (iii).

10. (Currently Amended) A The method as claimed in ~~Claim 9~~ Claim 9, wherein the test agent is selected from at least one of the following: small organic molecules, small peptides, neurotransmitters, hormones and cytokines.

11. (Currently Amended) A The method as claimed in ~~any preceding claim~~ Claim 1, wherein the cell is an animal cell.

12. (Currently Amended) A The method as claimed in ~~any preceding claim~~ Claim 1, wherein the animal cell is selected from: Human Embryonic Kidney 293 (HEK293), Chinese Hamster Ovary (CHO), COS, MDCK, NG108, NIH3T3 or T84.

13. (Currently Amended) A The method as claimed in ~~any one of claims 4 to 12~~ Claim 1, wherein the cells are arranged at spaced-apart locations in or on the substrate.